March 23, 2009

NOTES for Electric Power Sector Users of the ARB Greenhouse Gas (GHG) Reporting Tool

(For Retail Providers, Marketers, and Operators of Electric Generating Facilities)

Air Resources Board (ARB) staff is preparing for release in March 2009 customized stepwise instructions for the electricity sector on using the GHG Reporting Tool. These notes are to assist power sector reporters during the training period.

Setting Up Contacts

Operators of Electric Generating Facilities (Not Retail Providers or Marketers): You will use your facility ARB ID number and Access Code to set up a facility manager with full access to your facility's data who can also certify the data. If you are a supplier that operates multiple facilities, you will need to use the ARB ID number and Access Code to set up a facility manager for each facility. The same individual can be facility manager for multiple facilities. A facility manager can create contacts and establish them as other facility managers or as facility reporters. Facility reporters can report data but cannot certify data.

Retail Providers and Marketers: You will use your entity level ARB ID number and Access Code to set up an entity manager with full access to your entity's data who can also certify the data. If you operate electric generating facilities, the entity manager can associate each of these facilities with the entity using the facility ARB ID number and Access Code. The entity manager can create contacts and establish them as entity managers, facility managers, entity reporters, and facility reporters. The entity manager can allow a facility manager access to multiple facilities by associating that contact with each of the facilities desired. The contacts you establish as entity reporters can report entity data and those established as facility reporters can report facility data.

Generating Facility vs Unit Level Reporting

Unit Level: You are required to report emissions at the unit level (or some combination of units that you will define). However, you can decide whether or not you want the unit level emissions to be summed and added into your facility total emissions. If you do, you will indicate that you want the unit emissions "summed." If not, such as when you use an upstream revenue meter to calculate facility emissions, you will mark the unit level emissions as "supplemental."

Aggregated Units: The regulation allows you to aggregate generating units for the purposes of reporting emissions if the facility lacks the necessary metering or monitoring equipment to measure data individually for each generating unit. In the reporting tool, you will set up the aggregation of units like a single generating unit.

Unit ID numbers: The reporting tool assigns unit ID# 1 to the first unit you report. It assigns ID #2 to the second unit you report, etc. Since you are setting up your generating units the first year of reporting, the generating unit ID numbers are not yet available to the public. Thus, even though the reporting tool includes all generating facility ID numbers, it will not include unit numbers until the second year of reporting. At

that time, ARB will make all the unit numbers available to entities reporting transactions. For now, if an entity is purchasing or taking power from a particular unit, rather than from the facility on whole, the entity will need to request the generating unit ID (as assigned by the reporting tool) number from the supplier in order to accurately associate the power purchased/taken with the unit. Because the first year of reporting is based on best available data, it is acceptable to associate transactions with the facility only and not with the power unit.

Facility Level: You can set up emitting activities by fuel type at the facility level. If you report emissions for an emitting activity or activities at the facility level that duplicate emissions represented by emitting activities you set up for your generating units, and you mark the facility level emitting activities as "summed," then you should mark your unit level emitting activities as "supplemental." If you chose to have your generating unit emissions "summed" into your facility emissions, then your facility level reporting will be limited to emissions sources other than your generating units. These other sources may be auxiliary boilers, process emissions from acid gas scrubbers (process emissions can be reported optionally at the unit level), and fugitive emissions of SF6 from facility equipment or HFC from a cooling unit.

Entity level: If you are a retail provider, you may choose to report fugitive SF6 at the entity level and not report SF6 at the facility level. Fugitive SF6 emissions are the only emissions that are reported at the entity level.

ARB Facility Lists: There are three lists of generating facilities posted on ARB's website, at http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep-power/ghg-rep-power.htm. One represents generating facilities that combust fossil fuels or biomass operated by entities and suppliers who are required to report their GHG emissions to ARB. This list includes some out-of-state facilities that are operated by entities required to report, such as multi-jurisdictional retail providers. The second list is generating facilities that use nuclear, hydroelectric, wind, or solar energy. The third list is out-of-state generating facilities not already listed. The ARB ID number for out-of-state facilities not required to report to ARB is the same as their EIA number. In the second year of reporting, the posted lists will also include generating unit ID numbers.

Fuels

Device Level Reporting: The regulation requires that you report fuel consumption down to the lowest level of metering (if metered). It also requires that fuel consumption be reported at the generating unit level. Typically, generating units will be the lowest level of fuel metering for those emitting activities. Thus, when you report fuel consumption at the generating unit level, you have met the requirement to report to the lowest meter. You do not need to repeat this information under the "devices" tab used to report fuel consumption.

If you have lower level fuel meters on emitting activities other than your generating units, you need to report fuel consumption to that lowest level metered. For example, if you set up an emitting activity based on a facility level revenue meter, fuel metered downstream (e.g., for a boiler) must be reported under "devices." If you set up your backup boiler as a separate emitting activity and then report fuel consumption and

emissions for that activity, there is no need to duplicate the reporting of fuel consumption for the boiler under the "devices" tab.

Fuel Summations: Note that when you report fuel usage at the generating unit level and mark the entry "summed," the reporting tool will sum emissions but will NOT sum fuel consumption reported at the unit level. The tool does, however, sum fuel consumption reported for separate emitting activities that have been set up at the facility level and marked "summed."

Selecting Type of Natural Gas: The reporting tool includes many choices for natural gas. You should select the natural gas defined for the range of measured high heat value that is appropriate. Do not select "unspecified natural gas" unless you are reporting start-up fuels or fuels consumed in de minimis emitting activities. This is because unspecified natural gas is associated with the use of a default CO2 emission factor. In most cases, the regulation requires that the electric sector use a more rigorous methodology to calculate CO2.

Emitting Activities

Before you can report emissions for your facility, you must set up "emitting activities" in the reporting tool to be associated with the emissions you report. You will set up emitting activities so that you can report information as specified in the regulation.

Categories of Emitting Activities: When you set up your emitting activities, you will need to select an emitting activity "category." The following list of categories pertains to the electricity sector. You should limit your choices to these categories to fullest extent possible.

Categories of Emitting Activities

GENERATING UNIT LEVEL

Stationary Combustion
- Generating Unit (NOT cogen):
  - Combined cycle
  - Boilers combined with steam turbines
  - Combustion turbine engines (e.g., Peakers)
  - Reciprocating engines
  - Multiple Sources
- Generating Units (Cogen):
  - Cogeneration to electricity generation
  - Cogeneration to manufactured product outputs
  - Cogeneration to thermal energy production
  - Cogeneration Total
  - Heat Recovery Steam Generation (HRSG)
  - Device assoc with Manufacturing (Bottoming cycle)

Stationary combustion and process (combination)
- Combined Stationary and Process (CEMS)
- Other

Process Emissions
- Acid Gas Scrubber
- Acid Gas Reagent Injection

FACILITY LEVEL

Stationary Combustion
- Combined cycle
- Boilers combined with steam turbines
- Combustion turbine engines (e.g., Peakers)
- Reciprocating engines
- Cogeneration Total
- Heat Recovery Steam Generation (HRSG)
- Boilers (use for auxiliary boilers)
- Multiple Sources

Stationary combustion and process (combination)
- Combined Stationary and Process (CEMS)
- Other

Process Emissions
- Acid Gas Scrubber
- Acid Gas Reagent Injection
- Other

Fugitive Emissions
- Chiller/Cooling Unit (HFC)
- Coal Storage
- Equipment Fugitive emissions (use for SF6)
- Geothermal facility Fugitive CO2

Examples of Emitting Activities for Reporting CO2 Emissions: The following are examples of how to set up emitting activities and then report emissions for generating units that combusts various types of fuels. These examples provide a conceptual framework. You can refer to the Users Guide for more detailed instructions.

Example A:
CO2 Emissions for Generating Unit with Continuous Emissions Monitoring System (CEMS) that Combusts Coal

Electric generating unit #1 combusts coal. The unit has CEMS and an acid gas scrubber. The CEMS data enables you to calculate CO2 from combusting coal combined with CO2 from the acid gas scrubber. Since you are not required to report the process CO2 emissions for the acid gas scrubber separately, you can set up one emitting activity. In this example, the aggregation level selected is "summed" which means the emissions reported for the emitting activity at the generating unit level will be added into facility level total emissions.

Emitting Activity for Unit #1

Emitting Activity Name:
Unit #1 Coal Unit with Acid Gas Scrubber
Emitting Activity Category: Stationary Combustion and Process (combination)
Activity Type: Boiler
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Coal (Anthracite), Fuel

Emissions for Emitting Activity for Unit #1

Select emitting activity:
"Unit #1 Coal Unit with Acid Gas Scrubber"
Select fuel: "Coal (Anthracite), Fuel."
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"CEMS 95125 (g) pre-calculated"
Enter Emissions: Enter your pre-calculated number
(Note: You enter pre-calculated total emissions based on the CEMS methodology which includes CO2 emissions from the acid gas scrubber)

Example B:
CO2 Emissions for Generating Unit with CEMS and Co-fired with Natural Gas and Biomass

Electric generating unit #2 combusts both natural gas and biomass. The unit has CEMS. Since you are required to report emissions by fuel type, you will set up one emitting activity and select two fuels—natural gas and biomass. You report CO2 emissions from natural gas using the fuel-based methodology 95125(c). To calculate the biomass related emissions, you use the CEMS methodology in 95125(g) to determine total CO2 emissions and then subtract the fossil fuel emissions. When you

report CO2 emissions from the biomass, you will select "CO2 (Carbon Dioxide Biomass)" so that the emissions are identified as biomass-derived.

You will report fuel consumption for both natural gas and biomass even though you did not need to know the amount of biomass combusted in order to determine biomass emissions. There are two reasons for this. First, you are required to report fuel consumption by fuel type. Second, when you report N2O and CH4 emissions from combustion, you can use the built in calculation tool if you have first entered the amount of fuel combusted for each fuel type and checked the default emission factors for N2O and CH4.

In this example, the aggregation level selected is "summed" which means the emissions reported for these two emitting activities at the generating unit level will be reflected in facility level total emissions.

Emitting Activity for Unit #2

Emitting Activity Name:
Unit #2 Natural Gas and Biomass Unit with CEMS
Emitting Activity Category: Stationary Combustion
Activity Type: Boiler
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Natural Gas (1050 to 1075 Btu/Std cubic foot), Fuel
Biomass Fuel

CO2 Emissions (natural gas) for Emitting Activity for Unit #2

Select emitting activity:
"Unit #2 Natural Gas and Biomass Unit with CEMS"
Select fuel: "Natural Gas (1050 to 1075 Btu/Std cubic foot), Fuel."
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Measured Heat Content CO2 (95125(c)) – Pre-Calculated"
Enter Emissions: Enter your pre-calculated number
(Note: You use a fuel-based method to determine emissions from the natural gas.)

CO2 Emissions (biomass) for Emitting Activity for Unit #2

Select emitting activity:
"Unit #2 Natural Gas and Biomass Unit with CEMS"
Select fuel: "Biomass Fuel"
Select Tab named "CO2 (Carbon Dioxide **Biomass**)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Continuous Emissions Monitoring System (CEMS) CO2 (95125(g)) – Pre-Calculated"
Enter Emissions: Enter pre-calculated emissions
(Note: You enter total emissions based on CEMS methodology minus the fossil fuel related emissions.)

Example C:
CO2, N2O, and CH4 Emissions for Generating Unit that Combusts Municipal Solid Waste

Electric generating unit #3 combusts municipal solid waste. The unit does not have a CEMS system. The operator used the methodology in section 95125(h)(1) of the regulation to calculate total CO2 emissions. Since the unit combusts MSW, the operator must report the biomass-derived portion of the fuel separately using the methodology in section 95125(h)(2).

Thus, the operator must report emissions associated with fossil fuels separately from emissions associated with biomass-derived fuels. The operator must also report N2O and CH4 from the combustion of the MSW fuel. The reporter sets up three emitting activities. One activity is to report fossil fuel related CO2 emissions from MSW, one is for biomass-derived CO2 emissions from MSW, and a third is for N2O and CH4 emissions from the MSW fuel.

The activity to report fossil fuel related CO2 emissions is associated with the method, "Biomass, MSW, or Waste Derived Fuel with Biomass CO2 (95125(h)) – Pre-Calculated," because emissions are based on total emissions minus the biomass-derived portion of emissions. The activity to report the biomass-derived portion of emissions is associated with this method because emissions are based on the biomass percentage of total emissions. The emitting activity to report N2O and CH4 is associated with the method, "Default emission factor and default heat content CH4 (95125(b)(3)) – Calculation Tool." The operator checks "summed" for all emitting activities so that the emissions will be reflected in facility totals

Emitting Activity for Unit #3 for fossil fuel CO2 emissions

Emitting Activity Name:
Unit #3 MSW Unit – fossil fuel CO2 emissions
Emitting Activity Category: Stationary Combustion
Activity Type: Boiler
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Municipal Solid Waste (MSW), Fuel

Emitting Activity for Unit #3 for biomass-derived CO2 emissions

Emitting Activity Name:
Unit #3 MSW Unit – biomass-derived CO2 emissions
Emitting Activity Category: Stationary Combustion
Activity Type: Boiler
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Biomass Derived Fuels (Solid)

Emitting Activity for Unit #3 for MSW N2O and CH4 emissions

Emitting Activity Name:
Unit #3 MSW Unit – N2O and CH4 emissions
Emitting Activity Category: Stationary Combustion
Activity Type: Boiler
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Municipal Solid Waste (MSW), Fuel

CO2 Emissions (MSW – fossil fuel portion) for Emitting Activity for Unit #3

Select emitting activity:
"Unit #3 MSW Unit – fossil fuel CO2 emissions"
Select fuel: "Municipal Solid Waste (MSW), Fuel."
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Biomass, MSW, or Waste Derived Fuel with Biomass CO2 (95125(h)) – Pre-Calculated"
Enter Emissions: Enter your pre-calculated number
(Note: You use the steam based method in 95125(h)(1) to determine total emissions from MSW but report only the fossil fuel related portion determined using ASTM D6866-06a.)

CO2 Emissions (MSW – biomass portion) for Emitting Activity for Unit #3

Select emitting activity:
"Unit #3 MSW Unit – biomass-derived CO2 emissions"
Select fuel: "Biomass Derived Fuels (Solid)"
Select Tab named "CO2 (Carbon Dioxide **Biomass**)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Biomass, MSW, or Waste Derived Fuel with Biomass CO2 (95125(h)) – Pre-Calculated"
Enter Emissions: Enter pre-calculated emissions
(Note: You enter the portion of total CO2 emissions associated with biomass-derived fuel determined using ASTM D6866-06a.)

Reporting CH4 Emissions for Emitting Activity for Unit #3

Select emitting activity:
"Unit #3 MSW Unit – N2O and CH4 emissions"
Select fuel: "Municipal Solid Waste (MSW), Fuel"
Select Tab named "CH4 (Methane)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Default emission factor and default heat content CH4 (95125(b)(3)) – Calculation Tool"
Enter Emissions: The on-line reporting tool will calculate emissions

Reporting N2O Emissions for Emitting Activity for Unit #3

Select emitting activity:
"Unit #3 MSW Unit – N2O and CH4 emissions"
Select fuel: "Municipal Solid Waste (MSW), Fuel"
Select Tab named "N2O (Nitrous oxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Default emission factor and default heat content CH4 (95125(b)(3)) – Calculation Tool"
Enter Emissions: The on-line reporting tool will calculate emissions

Example D:
CO2 Emissions for a Cogeneration Unit

Unit #4 combusts natural gas and is a cogeneration topping cycle unit. The regulation requires the operator to report total CO2 emissions for the unit and also distributed CO2 emissions associated with electricity and thermal energy production. The emitting activities are set up under the generating units tab. The operator sets up three emitting activities to report CO2 emissions—one for total CO2 emissions, one for distributed emissions associated with electricity generation, and one for distributed emissions associate with thermal energy production. The total emissions are checked "summed" to be included in facility total emissions. The distributed emissions are checked "supplemental" emissions so that they are not reflected in the facility totals.

Emitting Activity for Unit #4 for Total CO2 emissions

Emitting Activity Name:
Unit #4 NG Cogen – Total CO2 Emissions
Emitting Activity Category: Stationary Combustion
Activity Type: Cogeneration Total
Status: Operating
Aggregation Level: Summed
Available Fuels (Fuels, Feedstocks, or Other):
Natural Gas (1050 to 1075 Btu/Std cubic foot), Fuel

Emitting Activity for Unit #4 for Distributed CO2 Emissions to Electricity Generation

Emitting Activity Name:
Unit #4 NG Cogen – Distributed CO2 emissions to electricity
Emitting Activity Category: Stationary Combustion
Activity Type: Cogeneration to Electricity Generation
Status: Operating
Aggregation Level: Supplemental
Available Fuels (Fuels, Feedstocks, or Other):
Do NOT select a fuel – Leave Blank

Emitting Activity for Unit #4 for Distributed CO2 emissions to Thermal Energy Production

Emitting Activity Name:
Unit #4 NG Cogen – Distributed CO2 emissions to thermal
Emitting Activity Category: Stationary Combustion
Activity Type: Cogeneration to Thermal Energy Production
Status: Operating
Aggregation Level: Supplemental
Available Fuels (Fuels, Feedstocks, or Other):
Do NOT select a fuel – Leave Blank

Total CO2 Emissions for Emitting Activity for Unit #4

Select emitting activity:
"Unit #4 NG Cogen – Total CO2 Emissions"
Select fuel: "Natural Gas (1050 to 1075 Btu/Std cubic foot), Fuel"
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Measured Heat Content CO2 (95125(c)) – Pre-Calculated"
Enter Emissions: Enter your pre-calculated number

Distributed CO2 Emissions to Electricity Unit #4

Select emitting activity:
"Unit #4 NG Cogen – Distributed CO2 emissions to electricity"
Select fuel: "Remaining Emissions"
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Distributed Topping cycle CO2 (95112(b)) – Pre-Calculated"
Enter Emissions: Enter your pre-calculated number

Distributed CO2 Emissions to Thermal Energy Unit #4

Select emitting activity:
"Unit #4 NG Cogen – Distributed CO2 emissions to thermal"
Select fuel: "Remaining Emissions"
Select Tab named "CO2 (Carbon Dioxide)"
Check box for Report Emissions: X
Select calculation method from pull down menu:
"Distributed Topping cycle CO2 (95112(b)) – Pre-Calculated"
Enter Emissions: Enter your pre-calculated number

Fugitive Emissions: Facility operators should report fugitive emissions of SF6, HFC, and geothermal CO2 at the facility level. Since fugitive emissions are not based on fuel use, do NOT select a fuel when setting up these emitting activities. When you are ready to report emissions for these activities, the reporting tool will provide you with an entry called "remaining emissions." You will select this entry to report your fugitive emissions.

When reporting fugitive CH4 emissions from coal storage, you select the type of coal stored. You will report emissions associated with that type.

Retail providers may report all SF6 at the entity level instead of at the facility level. SF6 is the only GHG reported at the entity level.

Metholodogies for Calculating Emissions

When you report emissions you will select the methodology you used to calculate emissions. The pull down menu provided in the reporting tool shows all methodologies available for a given fuel; however, not all of these methodologies are available to reporters in the electric sector. Be sure to reference the regulation or ARB guidance to choose a methodology that meets reporting requirements for electric generating facilities. The ARB guidance, Chapter 8, page 8-20, provides a matrix of methodologies available to operators of generating facilities by fuel type and by greenhouse gas.

Non Emissions Data

Reporters in the electric sector are required to include many pieces of information not related to emissions. The following paragraphs explain where to report non-emissions data.

Facility Details/Generating Unit Details: You can report *nameplate generating capacity* for the facilities and for the generating units that you operate under "Facility Details" and "Generating Unit Details," respectively.

Fuels Use and Emissions: When you submit data for "Fuels Use and Emissions," you have opportunity to report the amount of fuel combusted, special factors needed to engage on-line calculation tools, and other customized factors developed from fuel measurements and site-specific sources tests.

Annual High Heat Values (HHV) and Carbon Content: The regulation requires operators to report average high heat values by fuel type when the operator measures HHV or is able to obtain HHV from the fuel supplier. Similarly, operators are required to report annual average carbon content. These factors are reported on the same screen used to report the amount of fuel combusted. If HHV is not available, the operator must report annual steam production instead.

Other Custom Factors: You can report other factors like annual average carbon content when measured, custom emission factors developed from source tests, and a variety of other kinds of factors used within the reporting tool to calculate emissions.

There are several calculators within the reporting tool that can be utilized. The calculators for CO2 process emissions from acid gas scrubbers or acid gas reagent injection, fugitive CO2 from geothermal facilities, and fugitive CH4 from coal storage will be useful to electric sector reporters.

Custom factors used in the calculation tools follow the same format outlined in the regulation formulas. For acid gas scrubbers or acid gas reagent injection, you enter the amount of limestone or other sorbent used during the report year, a value for "R" (ratio of moles of CO2 released upon capture of one mole of acid gas), and a value for

"$Sorbent_{MW}$" (molecular weight of the sorbent). Then, in the next screen, the calculator within the reporting tool calculates CO2 process emissions for you.

Similarly, you can enter a custom factor for "heat" (heat taken from geothermal steam and/or fuid) to allow the reporting tool to calculate fugitive CO2 emissions from geothermal facilities. When you report fugitive CH4 from coal storage, you enter the amount of the particular kind of coal that was stored during the report year and check "default emission factor" for CH4. The tool will calculate fugitive CH4.

You can also report customized emission factors from source tests for facilities that combust biomass, waste-derived fuels, or that are geothermal facilities. When reporting these kinds of factors, you will select a "pre-calculated" methodology on the next screen. The selection of the methodology you used to calculate emissions pre-determines whether the factors you reported will be used in the calculators. When you select a "pre-calculated" methodology, the calculator is not activated. You will report the emissions that you pre-calculated and the reporting tool keeps record of the custom factors you reported, as well.

Energy and Production: In the "Energy and Production" submission you have the opportunity to report electricity and thermal production data. You will identify the types of information you need to report using the selection boxes. Your selection enables the reporting tool to show you the appropriate tabs for your submittal. The power sector reporters will typically select "Energy Production," "Energy Provided or Sold," and "Steam Production." In addition, cogeneration facilities/units will select "Indirect Energy Use" as applicable.

Net Power Generation: From "Energy and Production" you can report net power generation for your facility or generating unit under the "Energy Production" tab.

Steam: The regulation requires the operator to report steam if the operator does not measure HHV. From "Energy and Production" you can report steam under the "Steam Production" tab. The exception to this is when the generating unit is cogeneration. For cogeneration, steam is reported under the "Energy Production" tab under "Thermal Energy Production."

Wholesale electricity Direct Export: The regulation requires facility operators to report exports of power, if known. You can report direct exports from a facility under the "Energy Provided or Sold" tab. Retail providers and marketers should report exports as an entity submittal using the customized template for power transactions.

Cogeneration: If you operate cogeneration, you will report net power generated, amount consumed on site, and efficiency of electricity generation (if known) from the "Energy Production" tab under "Energy Production." You will report useful thermal output, amount consumed on site, efficiency of thermal production (if known), input steam, and output of HRSG from the "Energy Production" tab under "Thermal Energy Production." You will report electricity purchased and consumed and your energy provider under "Indirect Energy Use."

Entity Submissions: Non multi-jurisdictional retail providers, multi-jurisdictional retail providers, marketers, and the California Department of Water Resources are required to

report certain power transactions and other non-emissions data. The reporting tool provides templates customized for each type of entity to facilitate the upload of power transactions and other information. You will find the templates by selecting "Entity Submissions" and then "Annual Power Transactions Submission." The templates are in Excel format and can be downloaded from the tool. You can enter aggregated power transactions and additional data according to regulation requirements by following the template structure. When you have completed entering your data into the template, you can upload the data from your template into the reporting tool. The tool also includes a template for asset owning/controlling suppliers who are reporting voluntarily to ARB.

Power Transaction Templates: Depending on the type of entity that you are, the templates enable you to report imports to California, exports from California, power wheeled through California, in-state wholesale power purchases and sales, native load designations, null power, stipulations related to nuclear and hydroelectric facilities over 30 MW, ownership share for facilities fully or partially owned, information on sales from facilities greater than 1,100 lbs of CO2 per MWh (optional), retail sales, renewable energy programs (optional), and electrification sales (optional).

Ownership Share: For facilities fully or partially owned, retail providers are required to report ownership share and net power generation. You use the Excel sheet named "Fac Ownership Data" in the transactions template to report ownership share.

Net Power Generation: As discussed previously in this document, you report net power generation for the facilities you operate from the "Energy and Production" submittal selection under the "Energy Production" tab if you are required to report emissions for your facility. However, the regulation requires retail providers to report net generation also for facilities they fully or partially own but do not operate themselves. Guidance on how to report net generation for these additional facilities is provided in Power Entities Step-by-Step Guidance for GHG Emissions Reporting Using the California ARB On-Line Reporting Tool.

Nuclear, hydroelectric, wind, and solar facilities: If you are a retail provider that operates facilities using nuclear, hydroelectric, wind, or solar energy, you are required to report nameplate generating capacity and net power generation for these facilities. Guidance on how to report information for renewable resources you operate is provided in Power Entities Step-by-Step Guidance for GHG Emissions Reporting Using the California ARB On-Line Reporting Tool.

The ARB ID numbers are coded to reflect the type of renewable energy for the facility. If you think that you need your ID number changed, please contact ARB staff.

Hydroelectric Facilities 500000 series
Nuclear Facilities 600000 series
Solar Facilities 700000 series
Wind Facilities 800000 series